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# Solitary fibrous tumor of the prostate

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## SOLITARY FIBROUS TUMOR OF THE PROSTATE

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Solitary fibrous tumor of the prostate is extremely rare. Only five cases have been reported to the present. A 36-year-old man presented to our hospital complaining of difficulty in urination. Retrograde urethrography and urethroscopy demonstrated intraurethral protrusion of the left prostatic lobe and complete obstruction of prostatic urethra. Magnetic resonance imaging demonstrated the prostatic tumor with prominent intravesical protrusion. Transrectal echo-guided biopsy was performed on the supposition of leiomyosarcoma of prostate. However, the tumor was diagnosed as benign fibrous tumor, so the patient underwent transurethral resection of left prostatic lobe for the purpose of improving urinary condition, avoiding retrograde ejaculation. Histologic examination revealed a dense proliferation of spindle cells with no nuclear atypia. No mitotic figure was seen. The pathologic diagnosis was benign solitary fibrous tumor of the prostate, because the tumor was positive for CD34 and negative for  $\alpha$ -smooth muscle actin and desmin by immunohistochemical study. The patient remained well without regrowth of the tumor during the last six years.

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**Key words:** Prostatic neoplasm, Solitary fibrous tumor

### INTRODUCTION

Solitary fibrous tumor was first described in 1931 and most commonly arise from visceral pleura<sup>1)</sup> They are said to arise also from subcutaneous tissue, peritoneum, liver, spermatic cord. This is the sixth reported case of the lesion arising in the prostate<sup>2–6)</sup>

### CASE REPORT

A 36-year-old man presented to our hospital complaining of difficulty in urination for one year. On digital examination, the prostate was enlarged, elastic and hard with a smooth surface. Serum prostate specific antigen was 1.6 ng/ml (normal <4.0 ng/ml). Retrograde urethrography and urethroscopy demonstrated intraurethral protrusion of the left prostatic lobe and complete obstruction of prostatic urethra (Fig. 1). Magnetic resonance imaging demonstrated the prostatic tumor with prominent intravesical protrusion (Fig. 2). Because we suspected leiomyosarcoma of prostate by the asymmetrical enlargement prostatic lobe, transrectal echo-guided biopsy of prostate was performed. The pathologic diagnosis was a benign fibrous tumor because of the spindle shaped cell proliferation with no nuclear atypia. The patient underwent transurethral resection of left prostatic lobe for the purpose of improving urinary condition, avoiding retrograde ejaculation. Complete resection of the tumor was possible extension to the surgical capsule of the prostate and the resected tumor weighed 23 g. Histologic examination revealed that the tumor was



Fig. 1. Retrograde urethrography demonstrated intraurethral protrusion of left prostatic lobe and complete obstruction of prostatic urethra.

relatively well-circumscribed from the prostatic fibromuscular stroma. The prostatic glands were observed to be almost replaced by the tumor at a low magnification, and dense proliferation of spindle cells, which showed predominantly a so-called 'patternless pattern' and no mitotic figure was seen at a high magnification (Fig. 3). The tumor was positive for CD34 and negative for  $\alpha$ -smooth muscle actin and desmin. Consequently, the pathologic diagnosis of



Fig. 2. Abdominal MRI. T2-weighted image of the pelvis demonstrating the prostatic tumor with prominent intravesical protrusion.

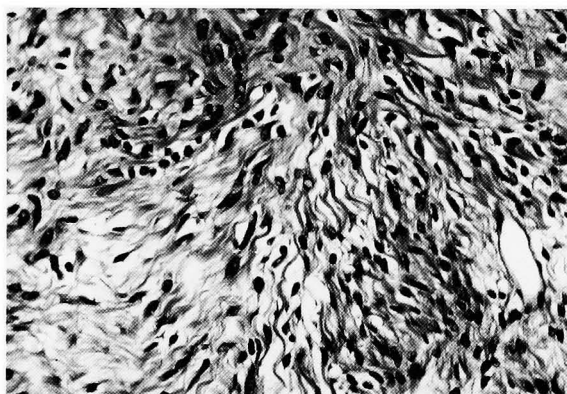


Fig. 3. Histological findings. A dense proliferation of spindle cells with no nuclear atypia, which shows a so-called 'patternless pattern'.

the tumor was benign solitary fibrous tumor of prostate. The postoperative course was uneventful and the patient has remained well without regrowth of the tumor during last six years.

### DISCUSSION

The typical histologic feature of solitary fibrous tumor is a so-called 'pattern-less pattern' of bipolar spindle cells and collagen fibers arranged in disorderly configuration. A solitary fibrous tumor also shows a high rate positive for CD34 by immunohistochemical analysis<sup>2-6</sup>. Differential diagnosis include leiomyosarcoma and fibrosarcoma. Leiomyosarcoma typically stains positive for actin

and desmin. Fibrosarcoma exhibits a prominent herringbone pattern and stains negative for CD34. Criteria for the malignancy of solitary fibrous tumors have been proposed: (i) high cellularity with crowding and overlapping of the nuclei; (ii) high mitotic activity (more than four mitotic figures per 10 high power fields); and (iii) pleomorphism which can be classified as mild, moderate or marked based on nuclear size, irregularity and nucleolar prominence. According to the criteria, the present case was diagnosed as benign solitary fibrous tumor.

As to the treatment, of the five cases reported previously two patients underwent total cystoprostatectomy, because preoperative diagnosis was malignant solitary fibrous tumor and spindle cell sarcoma<sup>3,5</sup>. One underwent radical prostatectomy, because preoperative diagnosis was malignant mesodermal tumor<sup>6</sup>. On the other hand, one patient underwent transurethral resection and one was observed only, because pathologic diagnosis was benign solitary fibrous tumor<sup>2,4</sup>. The present case underwent transurethral resection, because pathologic diagnosis was benign solitary fibrous tumor of prostate, and remained well without regrowth of the tumor during the last six years. Finally, pathologic diagnosis is extremely important for the appropriate treatment of this rare disease.

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## 和文抄録

## 前立腺孤立性線維性腫瘍の1例

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前立腺孤立性線維性腫瘍はきわめて稀な疾患であり，現在までの症例報告は5例のみである．症例は36歳．排尿困難で当院紹介．尿道造影，CT，MRIで膀胱内へ突出する腫大した前立腺を認め，経直腸超音波下前立腺針生検で良性繊維性腫瘍と診断され，経尿道的前立腺切除術を施行した．病理組織像は核異型の

ない紡錘形細胞の密な増生で，分裂像は認めなかった．さらに免疫組織染色でCD34が陽性， $\alpha$ SMAとデスミンが陰性のため病理組織診断は前立腺の良性孤立性線維性腫瘍とされた．現在まで6年間再発なく健在である．

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